

Remarks

The Office action mailed March 5, 2004 included several objections to and rejections of the application and claims. These included: 1) a requirement of a new title clearly indicative of the invention to which the claims are directed; 2) an objection to the drawings based on 37 C.F.R. §§ 1.83(a) and 1.84(o); 3) an objection to claims 20 and 70 due to informalities in the claims; 4) a rejection of claim 43 under 35 U.S.C. § 112; 4) a rejection of claims 1, 26, 46, and 63 under 35 U.S.C. § 103(a) as being unpatentable over Esch et al. (U.S. Pat. No. 5,099,319); 5) a rejection of claims 2-19, 21-38, 40-58, 60-74, and 76-80 under 35 U.S.C. § 103(a) as being unpatentable over Esch et al. in view of Martinez (U.S. Pat. No. 4,928,177); and 6) a rejection of claims 20, 30, 59, and 75 under 35 U.S.C. § 103(a) as being unpatentable over Esch et al. in view of Martinez in further view of Richer et al. (U.S. Pat. No. 4,956,709). See Office action. Applicants will respond to each of these objections or rejections below.

*Title of the Invention*

The Office action required a new title of the application that is clearly indicative of the invention to which the claims are directed. See id. at 2. Applicants suggest the following new title: "Apparatus and Method for Insertion of a Media Segment into a Broadcast Signal."

*Drawings*

The application's original drawings were objected to because they were not labeled in accordance with 37 C.F.R. §§ 1.83(a) and 1.84(o). See id. Applicants have amended the figures to comply with the 37 C.F.R. §§ 1.83(a) and 1.84(o) and have enclosed amended marked-up figures and replacement figures. Applicants request a withdrawal of this objection.

*Claims 20 and 70*

Claims 20 and 70 were objected to due to informalities in the claims. See id. Specifically, original claim 20 did not end in a period and claim 70 included the phrase "an end user units," which was unclear as to whether a single unit or plural units were recited in the claim. Applicants have amended the claims to correct these informalities and request a withdrawal of the objection to these claims.

*§ 112 Rejection*

In the Office action, claim 43 was rejected under § 112, 2<sup>nd</sup> paragraph, as being indefinite for using the term "very small." See id. Applicants note that the phrase used in the claim - "very small aperture terminal" - is well-known in the art with which the application is concerned and is defined as "a small earth antenna . . . or dish . . . that enable[s] data to be transmitted between two or more locations over a wide area," for instance "a satellite ground station with an antenna dish of around 1 meter, as compared to around 10 meters for other types of satellite dishes . . . ." [www.computerhope.com/jargon/v/vsat.htm](http://www.computerhope.com/jargon/v/vsat.htm); <http://encyclopedia.thefreedictionary.com> (printouts of definitions attached). Since the phrase is well-known in the art, Applicants contend use of this phrase in claim 43 does not render the claim indefinite and request a withdrawal of this rejection.

*§ 103(a) Rejections*

In the Office action, independent claims 1, 26, 46, and 63 were rejected under § 103(a) as being unpatentable over Esch et al. See Office action at 3. Applicants will show below that none of these claims is obvious because the limitations of these claims are neither taught or suggested by a combination of the cited reference and knowledge that is

generally available to one of ordinary skill in the art. See MPEP § 2143.

Esch et al. teach an apparatus and method for customizing advertising for television. Control data signals (the customized material in an advertisement) and schedule data signals (which include scheduling data) are created at a central site in the advertising delivery network and a communications signal is created by formatting the content data signals and schedule data signals with the video signal of the underlying advertisement; the schedule data signals are added to the content data signals and a communications signal which includes the content data signal and/or the video signal is created. See Esch et al. at col. 4, ln. 10-28; col. 5, ln. 21-62. The communications signals are transmitted to a remote site via a satellite coupling the central and remote sites. See id. at col. 4, ln. 37-8. Cue signals are among network signals sent by the satellite network to the remote sites; when the cue signals are received at the remote site, the scheduled, customized commercial is inserted into the local network. See id. at cols. 4-5, ln. 66-2; col. 8, ln. 35-48.

The Esch et al. apparatus and method require the central site and the satellite network to each send signals to the remote site. As noted above, the central site creates the content data signals and scheduling information which are combined and sent to the remote site and the satellite network sends network signals, including cue signals which trigger insertion of the customized commercial into the network video signal, to the remote site.

In contrast, Applicants teach a system and method where both the media segments, or additional material, to be inserted and the control signals which describe information about the media segments and trigger insertion of the media segments into a broadcast signal, are sent in a broadcast signal to a remote receiver by a central source. See, e.g., Application, p. 4, ln. 18-25. Once a media segment is

completed, a scheduled slot, a portion of time in a broadcast that may be allocated for insertion of a media segment or a block of consecutive media segments, is defined. See id. at p. 13, ln. 6-8. The media segment, or additional material, is then sent by the central source to the remote receiver, for instance by transmitting the media segment with the video signal as data. See id. at p. 13, ln. 8-9. The remote station then saves the media segment. See id. at p. 13, ln. 13-14. A signal encoder at the central source then encodes insertion control signals into the broadcast signal, for instance, in the VBI of a television signal. See id. at p. 14, ln. 22-23; see id. at p. 15, ln. 10-12. The control signals include a cueing signal, which contains information about the media segments, and an action signal, which triggers the insertion of a predefined media segment. See id. at p. 7, ln. 21-24. (Note that Esch et al.'s cue signal triggers insertion of the customized material into the local network; in contrast, Applicants' cueing signal contains information about the media segments, and Applicants' action signal triggers insertion of the media segment.) When the action signal is received, a media segment player at the remote receiver inserts the media segment(s) into the signal broadcast by the remote receiver. See id. at p. 17, ln. 14-15.

The Applicants' invention differs from Esch et al. in several respects. First, Applicants' central source transmits both the media segment and the control signal that triggers insertion of the media segment into the broadcast signal to the remote receiver, which then inserts the media segment into the signal broadcast by the remote receiver. In contrast, in Esch et al., communications signals are sent from the central site to the remote site while cue signals are sent by the satellite network to the remote site. Second, Applicants' central source sends a control signal, comprising information about the media segments as well as the trigger

for inserting the media segment into the broadcast signal sent by the remote receiver, in the broadcast signal sent by the central source. In Esch et al., communications signals containing the customized material and scheduling information are sent by the central site while the cue to insert the customized material into the network broadcast come from the satellite network, not the central site. Finally, Applicants require only the central source to know scheduling information, unlike Esch et al. which transmits scheduling information to the remote site, so that upon receipt of a cue signal the next scheduled commercial is inserted. This difference means that Applicants' system can easily accommodate changes to the broadcast schedule, for instance, by inserting content-appropriate media segments into the broadcast signal. See id. at p. 14, ln. 3-7. For example, if a children's show were interrupted by a news bulletin, Applicants' system allows the central source to send control signals to the remote receiver that would insert appropriate media segments into the broadcast, rather than media segments intended for the pre-empted children's show. In contrast, Esch et al.'s system is not as flexible, since the schedule information which is sent to the remote site is determined by the satellite network's schedule; if the satellite network's schedule is altered due to an unexpected event, it would be very difficult to change the schedule sent by the central site to the remote site so that content-appropriate material could be shown. See Esch et al., col. 5, ln. 39-40 ("The scheduling for the network is accomplished based on network availability."). Since Applicants' system has the broadcast signal and the control signals sent by the central unit, and in fact the control signals generated by the central unit are sent to the remote receiver in the broadcast signal, Applicants' system can easily adjust to unexpected changes in the broadcast schedule. Given these differences between

Applicants and Esch et al., Applicants' claims are not obvious over Esch et al.

Claim 1

Applicants' claim 1 was rejected in the Office action for being obvious over Esch et al. Applicants contend that the teachings of Esch et al., alone or in combination with what is known to those skilled in the art, do not teach or suggest all the limitations of claim 1. Therefore, Applicants' claim 1 is not obvious over Esch et al. See MPEP § 2143.

The differences between Applicants' invention and Esch et al., discussed above, are reflected in Applicants' claim 1. Applicants' claim 1 includes a central insertion control unit that inserts a control signal into the broadcast signal and a remote insertion control unit that controls insertion of a media segment based on a control signal from the central insertion control unit. See Application, claim 1. The control signal comprises a cue signal that transfers information about media segments and an action signal that triggers insertion of the media segment. See id. As argued above, Esch et al. teaches neither a central unit that inserts a control signal comprising information about media segments and an action signal for triggering insertion of the media segment nor a remote insertion control unit that controls insertion of a media segment based on a control signal received from the central insertion control unit. The Office action states that:

[a]lthough an 'action' signal is not specifically recited, Esch inherently triggers an insertion of the media segment (as the media segment is inserted inevitably and eventually at some point in time) according to a prompt dictated by the scheduling processor 71, which one of ordinary skill in the art can reasonably designate as an 'action signal.' Office action, 3.

However, Applicants have shown in Esch et al. that the prompt dictated by the scheduling processor, i.e., the schedule data signal, indicates when a commercial is to be inserted into a video signal; however, a cue signal from the satellite network triggers actual insertion of the commercial into the video signal. In contrast, Applicants teach a control signal sent by the central unit which comprises both a cue signal which transfers information about the media segment and an action signal which triggers insertion of the media segment. Therefore, Esch et al. do not teach or suggest Applicants' control signal with information about media segments and the trigger for inserting the media segment, let alone Applicants' central unit which sends the control signal and the remote receiver which receives the control signal from the central unit. In fact, Esch et al. teach away from Applicants' central unit sending a control signal with an action signal since Esch et al. teach a central site sending content data signals which contain information about inserted material to the remote site and a satellite network which sends the remote site a cue to insert the commercial into the video signal. Therefore, neither Esch et al. nor the knowledge generally available to those skilled in the art, alone or in combination, teach or suggest the limitations of claim 1 and claim 1 is not obvious over Esch et al. Applicants therefore request a withdrawal of this rejection.

Applicants' claim 1 teaches a central insertion control unit that inserts a control signal and an information signal into the broadcast signal. See claim 1. Applicants have shown above that Esch et al. do not teach Applicants' control signal. In addition, Esch et al. do not teach inserting a control signal, i.e., information about media segments and triggers for inserting the media segment into the signal broadcast by the remote receiver, into the broadcast signal transmitted from the central unit to the remote receiver. Instead, Esch et al. teach away from Applicants'

approach by having the central site send the remote site communication signals containing the customized material and scheduling data and the satellite network send the remote site the network's broadcast signal, which includes the cue to insert the customized material into the video signal broadcast by the local network. Therefore, neither Esch et al. nor the knowledge generally available to those skilled in the art, alone or in combination, teach or suggest the limitations of claim 1 and claim 1 is not obvious over Esch et al. Applicants therefore request that the rejection of this claim be withdrawn.

Claims 2-25

Claims 2-25, dependent claims of independent claim 1, were rejected in the Office action under § 103(a) for being unpatentable over Esch et al. in view of Martinez (claims 2-19 and 21-25) or Esch et al. in view of Martinez in further view of Richer et al. (claim 20). See Office action at 5, 11. Applicants have shown that claim 1 is not obvious and is allowable. The dependent claims of an allowable independent claim are also allowable for at least the same reasons the independent claim is allowable. Applicants request a withdrawal of the rejections of these claims.

Claim 26

Claim 26 was rejected in the Office action as being obvious over Esch et al. See Office action at 3. Applicants contend that the teachings of Esch et al., alone or in combination with what is known to those skilled in the art, do not teach or suggest all the limitations of claim 26. Therefore, Applicants' claim 26 is not obvious over Esch et al. See MPEP § 2143.

Claim 26 teaches a central insertion control apparatus with, among other elements, an encoder for encoding control signals, comprising a cue signal transferring



information about media segments and an action signal triggering insertion of the media segment, and information signals into a broadcast signal. As argued above, Esch et al. do not teach Applicants' control signals nor a central insertion control apparatus that encodes control signals that comprise a cue signal or an action signal into a broadcast signal. Instead, Esch et al. teach away from Applicants' approach by having the central site send the remote site communication signals containing the customized material and scheduling data while the satellite network sends the remote site the network's broadcast signal, which includes the cue to insert the customized material into the video signal broadcast by the local network. Therefore, neither Esch et al. nor the knowledge generally available to those skilled in the art, alone or in combination, teach or suggest the limitations of claim 26 and claim 26 is not obvious over Esch et al. Applicants request that the rejection of this claim be withdrawn.

Claims 27-45

Claims 27-45, dependent claims of independent claim 1, were rejected in the Office action under § 103(a) for being unpatentable over Esch et al. in view of Martinez (claims 28-38 and 40-45) or Esch et al. in view of Martinez in further view of Richer et al. (claim 39). See Office action at 5, 11. Applicants have shown that claim 26 is not obvious and is allowable. The dependent claims of an allowable independent claim are also allowable for at least the same reasons the independent claim is allowable. Applicants request a withdrawal of the rejections of these claims.

Claim 46

Claim 46 was rejected in the Office action for being obvious over Esch et al. See Office action at 3. Applicants contend that the teachings of Esch et al., alone or in

combination with knowledge generally available to one skilled in the art, do not teach or suggest all the limitations of claim 46. Therefore, Applicants' claim 46 is not obvious over Esch et al. See MPEP § 2143.

Claim 46 teaches a remote insertion control apparatus for inserting a media segment into a broadcast signal with, among other elements, an insertion control unit which receives the video signal portion of a broadcast video signal from which a control signal comprising a cue signal and an action signal is extracted. See claim 46. The cue signal transfers information about media segments and the action signal triggers insertion of the media segment. See id. As shown above, Esch et al. do not teach Applicants' control signals which are encoded into a broadcast signal. Instead, Esch et al. teaches away from Applicants' approach by having a remote site which receives information about media segments from the central site and receives the broadcast signal with the cue to insert customized material from the satellite network. Therefore, neither Esch et al. nor the knowledge generally available to those skilled in the art, alone or in combination, teach or suggest the limitations of claim 46. Claim 46 is not obvious over Esch et al. Applicants request the rejection of this claim be withdrawn.

Claims 47-62

Claims 47-62, dependent claims of independent claim 46, were rejected in the Office action under § 103(a) for being unpatentable over Esch et al. in view of Martinez (claims 47-58, 60-62) or Esch et al. in view of Martinez in further view of Richer et al. (claim 59). See Office action at 5, 11. Applicants have shown that claim 46 is not obvious and is allowable. The dependent claims of an allowable independent claim are also allowable for at least the same reasons the independent claim is allowable. Applicants request a withdrawal of the rejections of these claims.

Claim 63

Claim 63 was rejected in the Office action as being obvious over Esch et al. See Office action at 3. Applicants contend that the teachings of Esch et al., alone or in combination with what is known to those skilled in the art, do not teach or suggest all the limitations of claim 63. Therefore, Applicants' claim 63 is not obvious over Esch et al. See MPEP § 2143.

Claim 63 teaches a method for "frame accurate insertion of a media segment into a broadcast signal being broadcast from a central source and received by a remote receiver adapted for rebroadcasting the broadcast signals to a number of end user units." Claim 63. This method comprises:

encoding control signals and information signals into a broadcast signal, wherein the control signals are comprised of a cue signal that transfers information about media segments and an action signal that triggers an insertion of the media segment; and inserting the control signals into spare data capacity of the broadcast signal. Id.

Applicants have shown above that Esch et al. do not teach Applicants' control signals comprising a cue signal and an action signal nor do Esch et al. teach encoding these control signals into a broadcast signal. Since neither Esch et al. nor the knowledge generally available to those skilled in the art, alone or in combination, teach or suggest the limitations of claim 63, claim 63 is not obvious over Esch et al. for at least the reasons cited above. Applicants request the rejection of claim 63 be withdrawn.

Claims 64-80

Claims 64-80, dependent claims of independent claim 63, were rejected in the Office action under § 103(a) for being unpatentable over Esch et al. in view of Martinez (claims 64-74 and 76-80) or Esch et al. in view of Martinez in

further view of Richer et al. (claim 75). See Office action at 5, 11. Applicants have shown that claim 63 is not obvious and is allowable. The dependent claims of an allowable independent claim are also allowable for at least the same reasons the independent claim is allowable. Applicants request a withdrawal of the rejections of these claims.

Conclusion

Applicants have amended claims 1, 8, 9, 14, 16, 20, 26, 39, 46, 55, 70, 71, and 75, suggested a new title of the invention, and amended the drawings. Applicants have also shown that the application's claims are not obvious in light of the cited references. Applicants have responded to the Office action's objections to and rejections of the application and claims. Therefore, a Notice of Allowance is requested.

CERTIFICATE OF MAILING

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Alexandria, VA 22313

Signed: Sally Azevedo  
Typed Name: Sally Azevedo

Date: June 4, 2004

Respectfully submitted,

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AMENDED MARKED-UP DRAWING

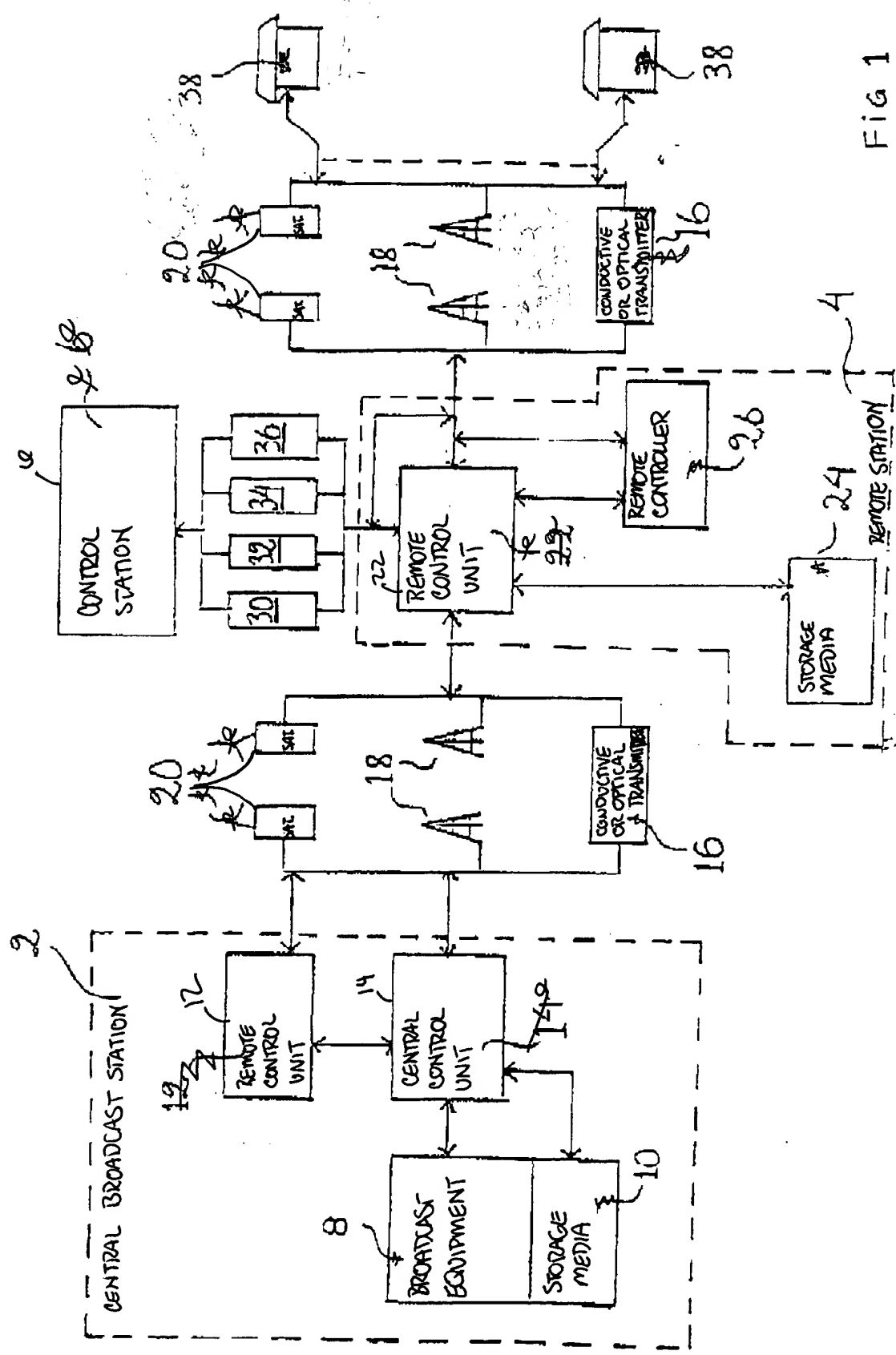


Fig 1

WO 96/08923

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ANNOTATED MARKED-UP DRAWING

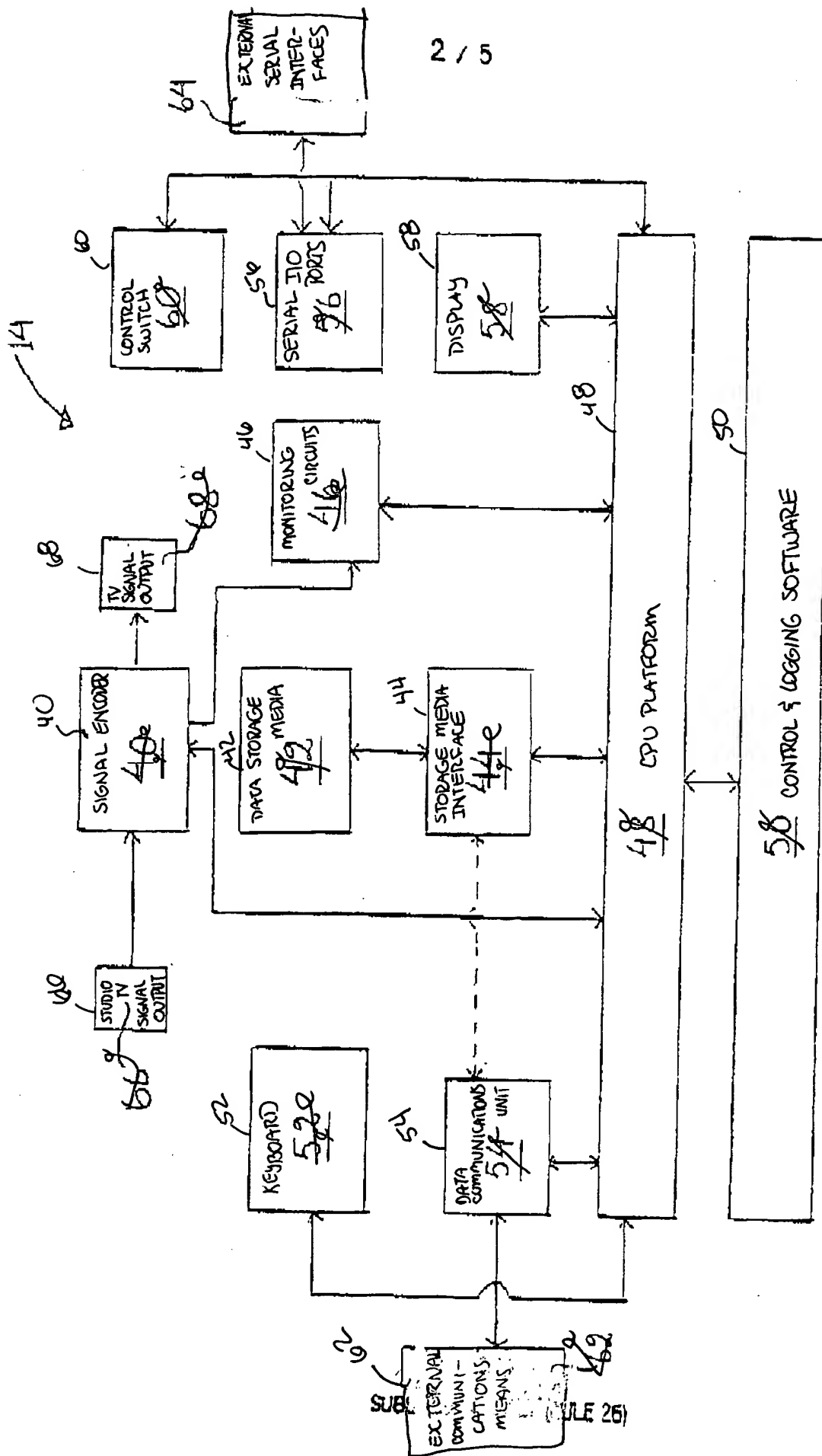


FIG 2

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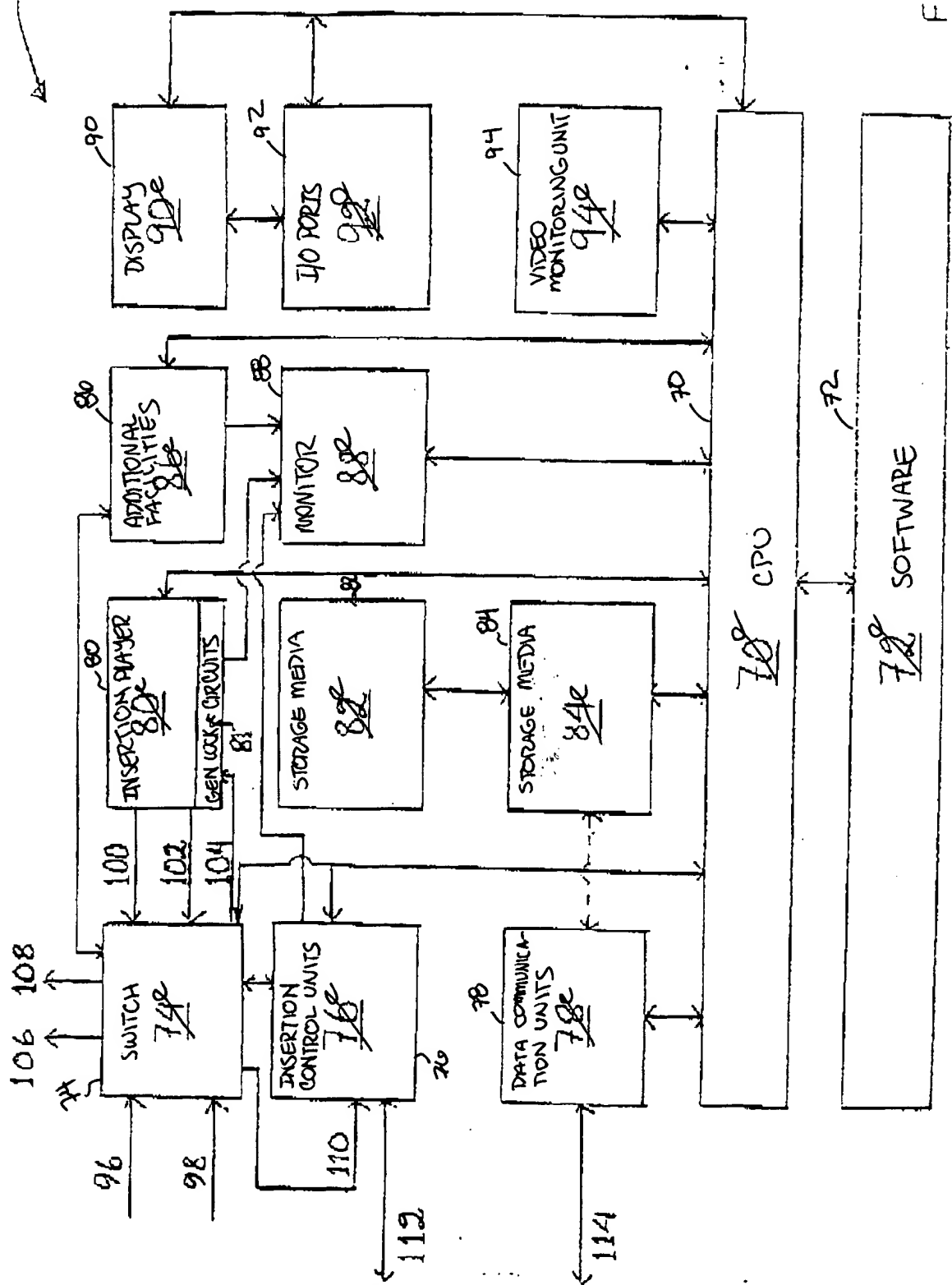


FIG 3





AMENDED MARKED-UP DRAWING

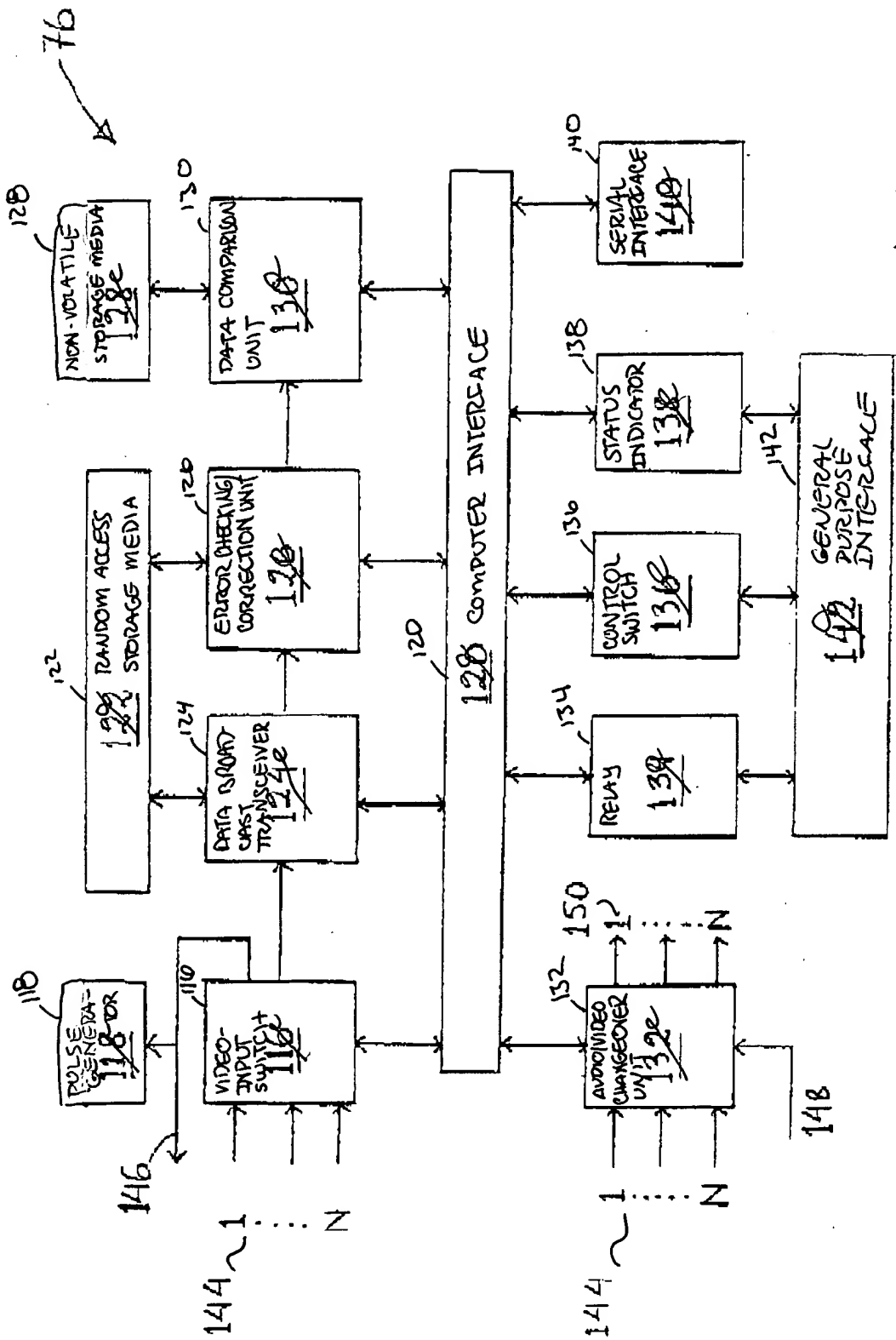


FIG 4

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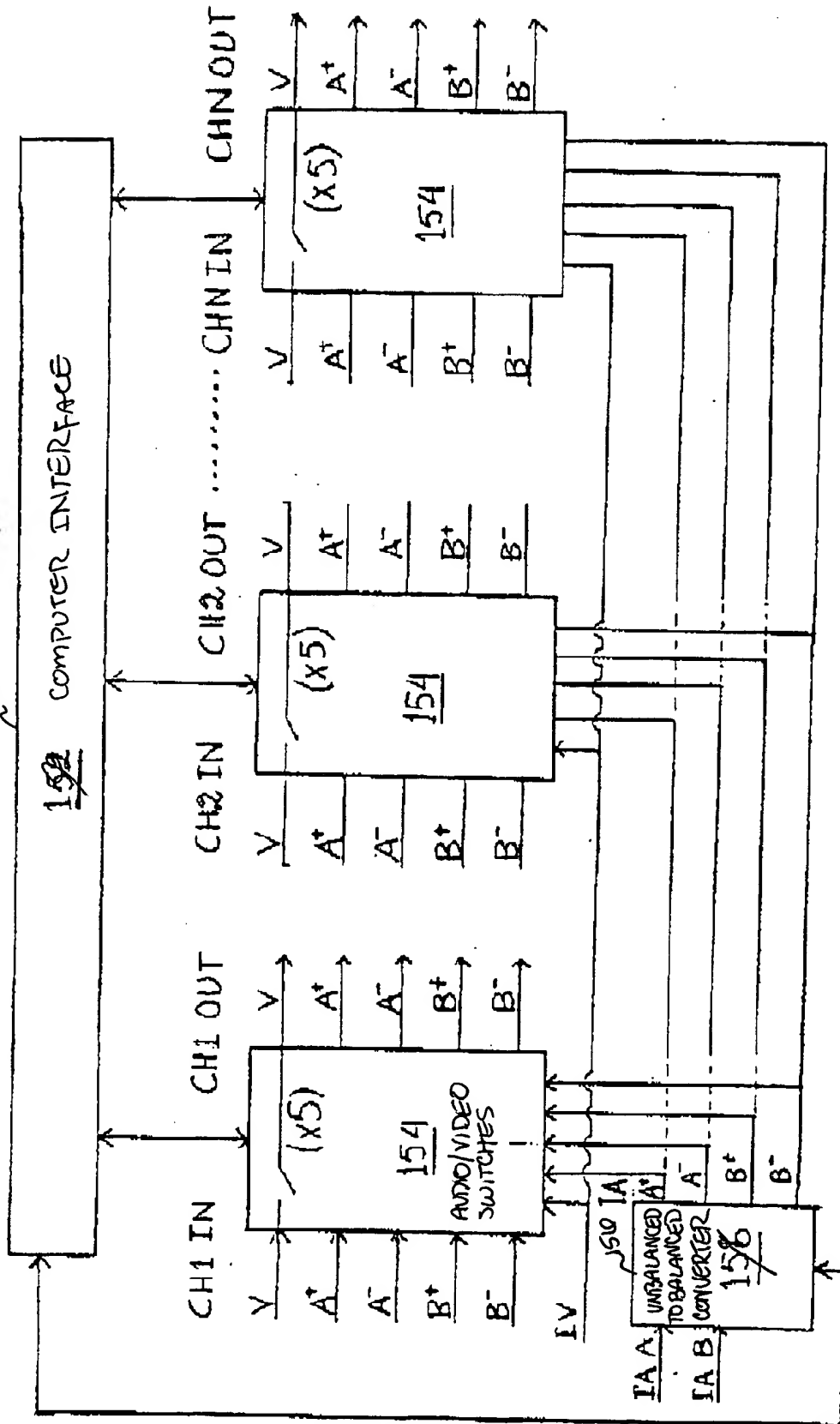


Fig 5



ANNOTATED MARKED-UP DRAWING

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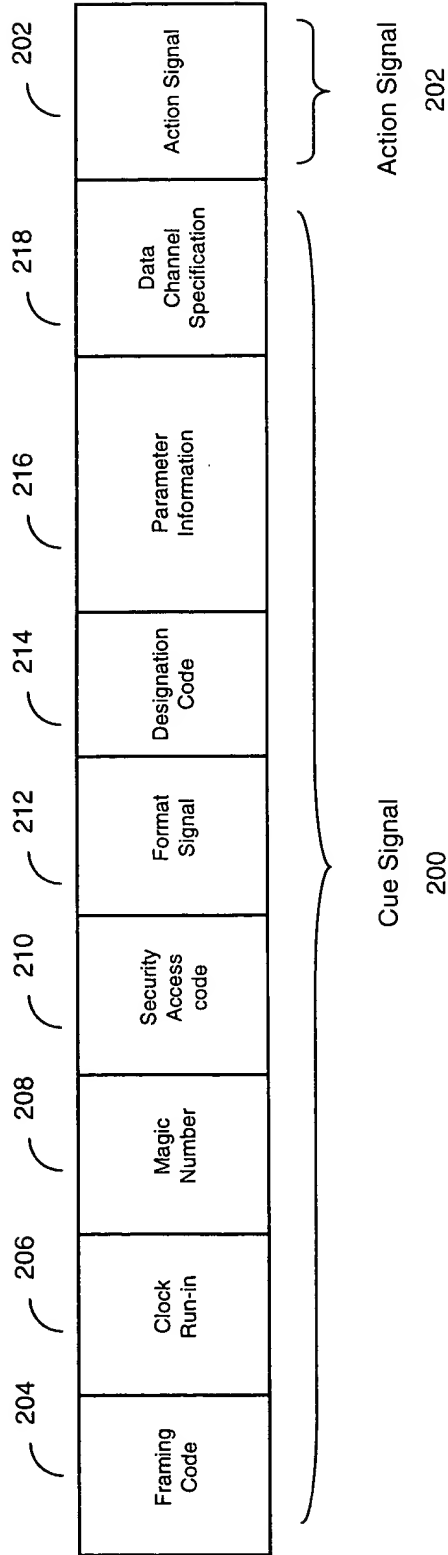


FIG. 6